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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/731,907 | 12/08/2003 | Gonzalo Amador | TI-30592.1 | 5802 |
| 23494 | 7590 | 07/19/2005 | EXAMINER | |
| TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265 | | | POTTER, ROY KARL | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2822 | |
| DATE MAILED: 07/19/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

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|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/731,907 | Applicant(s) AMADOR ET AL. | |
| | Examiner Roy K. Potter | Art Unit 2822 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 12-16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 17 and 21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12 – 16, 18 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi in view of Chen.

Sakaguchi, U.S. Patent No. 6337,030 discloses a wafer processing apparatus and wafer processing method. As shown in Figure 2, the method of wafer processing includes the steps of supporting wafers 40 with a plurality of rollers 11. The rollers 11 rotate the wafers as explained in column 5, line 10. The wafers 40 and rollers 11 are immersed in a wafer-processing bath 10. As described in column 4, line 45, processing solution is supplied to the bottom portion of the wafer processing bath 10 through supply pipe 21b. Discharge pipe 21a, shown at the top of the bath removes processing solution. Sakaguchi does not disclose that plating solution is a wafer processing solution that is used in a bath processing of wafers.

Chen, U.S. Patent No. 6,811,675, discloses a method for electrolytic alloy depositing copper on a semiconductor work piece. As described in column 4, beginning on line 64, a semiconductor is processed with an alkaline electrolytic copper bath. Example 1, beginning on column 9, describes the plating of wafers using such a bath.

Art Unit: 2822

It would have been obvious to use the bath of Chen in the wafer processing apparatus of Sakaguchi as Chen discloses that this is a wafer-processing bath, and Sakaguchi teaches that the apparatus can be used to immerse wafers in wafer processing baths.

Allowable Subject Matter

Claims 17 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not teach or suggest the recited step of swinging one of the rollers out of position in order to load a wafer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roy K. Potter whose telephone number is 308 - 4106. The examiner can normally be reached on M-F.

Art Unit: 2822

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Roy K Potter
Primary Examiner
Art Unit 2822